



## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** INDALLOY WITH NC-10HF

**SDS Number:** SDS- 5352

**Revised Date:** 8 JANUARY 2018

**Product Use:** INDUSTRIAL USE - FLUX COATED PREFORM

#### MANUFACTURER:

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**2. HAZARDS IDENTIFICATION****PRIMARY ROUTES OF ENTRY:**

⊗Eye    ⊗Inhalation    ⊗Skin    ⊗Ingestion    NTP

**Carcinogen listed in**

IARC    OSHA    ⊗Not Listed

GHS

Lead free products



Warning Word: Warning

Hazard statement(s)

H315 Causes skin irritation  
 H317 May cause an allergic skin reaction  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 EUH208 Contains rosin. May produce an allergic reaction

Precautionary statement(s)

P233 Keep container tightly closed  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray  
 P270 Do not eat, drink or smoke when using this product  
 P273 Avoid release to the environment  
 P280 Wear protective gloves/protective clothing/eye protection/face protection  
 P362 +P364 Take off contaminated clothing and wash before reuse  
 P301 + P314 IF SWALLOWED: Get Medical advice/attention if you feel unwell  
 P302 +P352 IF ON SKIN: Wash with plenty of soap and water  
 P304 + 341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P305 + 351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)

Lead containing products



Warning Word: Warning

Hazard statement(s)

H303 May be harmful if swallowed  
 H315 Causes skin irritation  
 H317 May cause an allergic skin reaction  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 H335 May cause respiratory irritation  
 H332 Harmful if inhaled  
 H351 Suspected of causing cancer  
 H361 Suspected of damaging fertility or the unborn child  
 H373 May cause damage to organs through prolonged or repeated exposure  
 H410 Very toxic to aquatic life with long lasting effects  
 EUH201A Warning! Contains lead. Review listing.  
 EUH208 Contains rosin. May produce an allergic reaction

Precautionary statement(s)

P233 Keep container tightly closed  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray  
 P270 Do not eat, drink or smoke when using this product  
 P273 Avoid release to the environment  
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 P305 + 351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)

**Classification:**

Carcinogenicity (Category 2) (lead)

Reproductive toxicity (Category 2 ) (lead)

Skin sensitizer-Category 1B

Respiratory sensitizer-Category 1B

Acute aquatic toxicity – Category 1 for lead containing products (H400)

Chronic aquatic toxicity – Category 1 for lead containing products (H410)

**POTENTIAL HEALTH EFFECTS:**

**Eye Contact:** Irritating to the eyes and if not removed promptly. Molten metal may cause burns to the eyes.

**Ingestion:** May cause irritation. May be harmful if swallowed.

**Inhalation:** Heated vapor concentrations may be harmful if inhaled. Irritating to the respiratory tract. Rosin may cause occupational asthma.

**Skin Contact:** May cause skin irritation or dermatitis. Molten metal may cause burns to the skin.

**Chronic:** **LEAD:** Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain and damage to the nervous system, blood system and kidneys.

**SILVER:** Chronic skin contact or ingestion of silver dust, salts, or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

**TIN:** Has been shown to increase incidence of sarcoma in animal tests.

**COPPER:** Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever; dry throat, cough, weakness, lassitude); metallic or sweet taste; discoloration of skin and hair.

**NOTE:** The Indium Corporation does not recommend, manufacture, market or endorse any of it's product's for human consumption.

**Warning:** This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (lead)

**Warning:** This product may contain lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making joints or fittings in any private or public water supply system. Keep out of the reach of children.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Components	% wt	CAS Registry #	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
<b>ROSIN FLUX MIXTURE</b>	0.1 - 4	65997-05-9 (EU)	N.E. 0.05	N.E. -	N.E. 0.15
<b>TIN</b>	*	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Canada)	-	2	4
		(Singapore)	2	-	-
<b>LEAD</b>	*	7439-92-1/231-100-4			
		(US)	0.05	0.05	-
		(EU)	-	0.15	-
		(Canada)	0.05	0.05	-
		(Singapore)	0.15	-	-
		(Mexico)	N.E.	0.15	-
		(China)	-	0.05(dust) 0.03(fume)	- -
<b>SILVER</b>	*	7440-22-4/231-131-3			
		(US)	0.01	0.1	-
		(EU)	-	0.1	-
		(Canada)	-	0.1	0.3
		(Mexico)	-	0.1	-
		(Singapore)	0.1	-	-
<b>COPPER</b>	*	7440-50-8/231-159-6			
		(US)	0.1	0.2	-
		(EU)	-	0.2 (fume)	2(dust)
		(Canada)	-	0.2	0.6
		(Singapore)	0.2(fume)	1(dust)	-
		(Mexico)	0.2	-	2
		(China)	-	0.2(fume)	0.6(fume)

N.E. = Not established

\* See Alloy Table

**ALLOY TABLE**

Metal mixed with flux coating

INDALLOY	%LEAD Pb	%TIN Sn	%SILVER Ag	%COPPER Cu	Specific Gravity	RoHS 2 Compliance
<b>104</b> (Sn62/Pb36/Ag2)	34.6-35.9	59.5-61.9	1.92-1.99	-	8.41	No
<b>NS</b> (96.3Sn/3.7Ag)	-	92.4 - 96.2	3.55 - 3.69	-	7.36	Yes
<b>241</b> (SAC387) (95.5Sn/3.8Ag/0.7Cu)	-	91.7- 95.4	3.6 - 3.79	0.67- 0.69	7.40	Yes
<b>244</b> (99.3Sn/0.7Cu)	-	95.3 – 99.2	-	0.67 - 0.69	7.31	Yes

Non Standard = non - standard alloy mixture

RoHS 2= (2011/65/EU)

**4. FIRST AID MEASURES**

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.
- Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.
- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

**5. FIRE FIGHTING MEASURES**

- Flash Point:** Not applicable      **Method:** Not available.
- Auto-ignition Temperature:** Not established. Not flammable.
- Flammable Limits:** Limits not established.
- Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. CO<sub>2</sub>, foam, water.
- Special Fire Fighting Procedures:** Firefighters must wear NIOSH approved or equivalent self-contained breathing apparatus and full protective clothing.

**6. ACCIDENTAL RELEASE MEASURES**

- Spill or Leak Procedures:** Wear a respirator and appropriate personal protective equipment (See Exposure Controls/Personal Protective Section). Let molten metal cool before picking up. Molten metal may have reclaim value.  
  
Dispose of following all Federal, State and Local regulations. Ensure area is ventilated. Dusty areas require respiratory protection. Do not sweep areas that may generate lead containing dusts.

**7. HANDLING AND STORAGE**

- Handling**                      Keep containers tightly closed when not in use. Use care to avoid spills. Avoid breathing

**Precautions:** vapors from heated material. Avoid contact with eyes, skin and clothing. Use with adequate ventilation.

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Keep away from heat and flame. Store away from incompatible materials. Dispose of empty containers properly.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Exhaust or point source ventilation should be sufficient to control airborne levels and keep exposure levels low. Always ventilate equipment that holds molten metal. Avoid exposure to lead containing fumes, if applicable.

### Personal protection:

**Eyes:** Chemical safety glasses/goggles. Face shield for molten metal.

**Respirator:** An approved or compliant marked air-purifying respirator with a HEPA/particulate cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated or when proper ventilation is not adequate to protect the worker.

**Skin:** Compatible chemical resistant gloves is recommended. Recommend protective outer garment, apron and sleeves as appropriate. Avoid skin exposure.

**Other:** Eyewash fountain in work area. Avoid the use of contact lenses in high fume/dusty areas.

**Work/Hygienic Practices:** Maintain good housekeeping. Clean up spills immediately.

Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area. Follow standard lead worker requirements.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Solid metal with flux coating	<b>Boiling Point:</b>	Not applicable.
<b>Odor:</b>	Slight characteristic odor.	<b>Melting Point:</b>	Not applicable
<b>Specific Gravity:</b>	See table	<b>pH:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable.	<b>Solubility in Water:</b>	Not established
<b>Vapor Density:</b>	(air=1) Not applicable.		

## 10. STABILITY AND REACTIVITY

**General:** Stable.

**Conditions to Avoid:** Not established

**Incompatible Materials:** Not established

**Hazardous Decomposition /** carbon monoxide, carbon dioxide

**Combustion:**

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Carcinogenicity:** NTP: No  
 OSHA: No  
 IARC: Yes      Lead and lead compounds are listed as possible carcinogens.

Chronic Toxicity: Prolonged or repeated exposure to rosin flux fume may cause workers to develop occupational asthma. Lead can cause potential harm to the developing fetus.

**12. ECOLOGICAL INFORMATION**

Product not tested.

**13. DISPOSAL CONSIDERATION**

**Waste Disposal Method:** Dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations. Product may have reclaim value.

**14. TRANSPORT INFORMATION**

Transport in accordance with applicable regulations and requirements. Not regulated under US DOT (United States Department of Transportation)/IATA/Ocean. Not hazardous under the shipping regulations.

North American Emergency Guide Book – Not classified

**15. REGULATORY INFORMATION**

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET. SEQ.).

This product has been classified in accordance with the hazard criteria of the Mexican regulations: NOM-018-STPS-2015 and NOM-010-STPS-2014.

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).

Canadian WHMIS:



D2B Materials Causing Other Toxic Effects -irritant

D2A-Materials Causing Other Toxic Effects-Very Toxic Material (Chronic) (lead).

This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore.

In China:

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007. Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals  
GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)  
GB/T 16483-2008, GB/T 17517-2013

This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS).

SARA 313 Listing - 40 CFR 372.65 - lead, tin, silver

All ingredients are listed on the EPA TSCA Inventory.

**16. OTHER INFORMATION**

<b>HMIS Hazard Rating:</b>	<b>Health:</b>	2
	<b>Fire:</b>	0
	<b>Physical Hazard:</b>	0

**Revised Date:** 8 JANUARY 2018

**Prepared by:** Nancy Swarts, Indium Corporation of America

**Approved by:** Nancy Swarts, Indium Corporation of America

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